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Saskatchewan Agriculture and Food

Crop Planning Guide 2002

DARK BROWN SOIL ZONE

The following crop budgets are intended to serve as a guide to estimate the income and cost for different crops on summer fallow and stubble. Budgets are included for crops seeded on fallow and stubble land using conventional tillage seeding practices, and for crops seeded on stubble land using direct seeding. These estimates do not represent provincial average cost of production figures.

The figures provide an estimate of variable expenses and other expenses (depreciation and investment costs for machinery, building and land). The grain prices are farmgate price estimates for 2002 crop production based on the information that is available as of December 2001.

On each farm, costs and yields differ due to soil type, climatic conditions and agronomic practices. Farm managers should determine their own costs, yields and expected commodity prices and adjust or change the assumptions listed on the back of this publication.

Large variations in yields and costs do exist between producers. Use these budgeting figures as a guide to develop estimates for your own farm. Your past farm records, adjusted for expected changes in 2002, can be used to develop your own budgeting figures. Blank worksheets are provided for this purpose.

Using the guide

When comparing returns per acre of continuous-stubble crop to a fallow-seeded crop, you must add the summer fallow costs to the fallow-seeded crop expenses. The best way of comparing summer fallow and stubble crops is to calculate the average returns per rotation acre for different rotations of crops. Refer to the example in this guide.

The break-even yields per acre show the level of yields producers would need to achieve to cover costs in 2002, based on the estimated market price. The break-even prices for crops show the levels of prices needed by producers to cover costs in 2002, if the estimated average yields are obtained.

The net returns and break-even prices and yields in this report are very sensitive to the estimated yields and prices used. Farm managers are advised to interpret these figures very carefully and evaluate new information as it becomes available. Using management tools such as crop insurance and forward pricing reduce the risk of fluctuations in these factors.

Maximizing profitability

These crop budgets can be used to assist producers in deciding which crops will be the most profitable for the coming year or in deciding which crop rotations and farming practices may be the most profitable for the farm over the long term.

Short-term planning

Deciding which crops to grow this coming year can be made by comparing **return over variable expenses** (estimated gross revenue minus variable expenses). Deciding which crop to grow in any one year must also take into account a number of production factors. For more information, pick up a copy of *Cropping Decisions*, available from Rural Service Centers.

Long-term planning

When looking at long-term decisions such as crop rotations, direct seeding and continuous cropping, you must look at all costs, including fixed costs. The **return over total expenses** should be the basis of comparison between alternatives.

Switching to a longer crop rotation or direct seeding and/or continuous cropping will likely require a change in farm machinery. Before making these changes, the **return over all costs** need to be considered.

CROP PRODUCTION COSTS 2002 DARK BROWN SOIL ZONE	SUMMERFALLOW		FALLOW-SEEDED CROPS								
	Tillage Fallow	Chem Fallow	Spring Wheat	Durum Wheat	CPS Wheat	Feed Barley	Lentil	Feed Peas	Flax	Canary Seed	Canola
EVENUE PER ACRE											
Estimated yield (bushel/acre; lb/acre)			33.2	35.1	40.3	55.3	1371.6	30.8	22.3	1056.6	24.1
X Estimated on-farm market price per bushel or per pound			4.70	4.79	3.77	2.31	0.17	3.87	7.25	0.16	7.31
Estimated Gross Revenue per acre	**0**	**0**	**156.04**	**168.13**	**151.93**	**127.74**	**233.17**	**119.20**	**161.68**	**169.06**	**176.17**
(PENSES PER ACRE											
riable Expenses per acre											
ed			7.19	10.23	7.55	6.65	18.90	18.00	5.95	12.60	12.00
rtilizer: Nitrogen			6.50	6.50	6.50	6.50	1.56	1.56	6.50	6.50	6.50
Phosphorus			6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Sulfur & Other			0	0	0	0	0	0	0	0	3.45
emical: Herbicides	2.50	11.89	14.46	14.46	14.46	15.03	33.19	18.98	21.04	11.65	19.73
Insecticides/Fungicides	0	0	0.90	0.90	0.90	0.00	2.05	0.00	0.00	1.15	0.94
Others	0	0	2.40	2.88	2.88	2.53	1.80	3.60	0.88	0.88	4.20
achinery Operating: Fuel	4.20	0.84	7.14	7.14	7.14	7.14	7.98	7.98	7.98	7.14	7.56
Repair	2.90	2.05	7.25	7.25	7.25	7.25	10.50	10.50	8.70	7.25	7.25
stom Work & Hired Labour	0	0	5.25	5.25	5.25	4.25	3.00	3.00	4.25	5.25	4.25
op Insurance Premium	0	0	2.07	2.09	2.53	2.72	6.00	1.94	2.05	2.66	2.54
ilities & Miscellaneous	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29
terest on Variable Expenses	1.10	1.52	1.68	1.78	1.72	1.65	2.52	2.01	1.79	1.73	2.09
Total Variable Expenses per acre	**15.00**	**20.58**	**65.13**	**68.76**	**66.46**	**64.01**	**97.79**	**77.86**	**69.42**	**67.10**	**80.79**
ther expenses per acre											
Building Repair	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Property Taxes	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73
nsurance & Licences	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Machinery Depreciation	5.80	4.10	14.50	14.50	14.50	14.50	17.50	17.50	14.50	14.50	14.50
Building Depreciation	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Machinery Investment	3.05	2.15	7.61	7.61	7.61	7.61	9.19	9.19	7.61	7.61	7.61
Building Investment	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Land Investment	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30
otal Other Expenses	**34.36**	**31.76**	**47.62**	**47.62**	**47.62**	**47.62**	**52.20**	**52.20**	**47.62**	**47.62**	**47.62**
abour and Management[1]											
Total Expenses per acre	**49.35**	**52.35**	**112.75**	**116.39**	**114.08**	**111.64**	**149.99**	**130.06**	**117.05**	**114.72**	**128.41**
ETURNS PER ACRE											
Return over Variable Expenses (A-B)	(15.00)	(20.58)	90.91	99.36	85.47	63.73	135.38	41.34	92.25	101.96	95.38
Return over Total Expenses (A-C)	**(49.35)**	**(52.35)**	**43.29**	**51.74**	**37.85**	**16.11**	**83.18**	**(10.86)**	**44.63**	**54.33**	**47.76**
REAK-EVEN YIELD PER ACRE											
er bushel or per pound)[2]											
To Cover Variable Expenses			17.0	17.5	21.6	34.2	663.5	24.0	11.6	513.1	13.1
To Cover Total Expenses			**34.5**	**34.6**	**43.4**	**69.7**	**1172.6**	**46.4**	**23.0**	**1025.5**	**24.3**
REAK-EVEN PRICE											
er bushel or per pound)[2]											
To Cover Variable Expenses			2.41	2.39	2.02	1.43	0.08	3.01	3.79	0.08	3.97
To Cover Total Expenses			**4.88**	**4.72**	**4.06**	**2.91**	**0.15**	**5.83**	**7.46**	**0.16**	**7.38**

[1] These budgets do not include an estimate for owner/operator labour and management. This value varies greatly and depends on both the farm manager's needs as well as the ability of the farm business to generate income. Farm managers need to determine their own actual labour and management cost and add it to total expenses.

[2] The break-even yields and prices for summerfallow crops include the previous years tillage fallow expenses.

CONVENTIONAL-SEEDED STUBBLE CROPS									DIRECT-SEEDED STUBBLE CROPS								
Spring Wheat	Durum Wheat	CPS Wheat	Feed Barley	Lentil	Feed Peas	Flax	Canary Seed	Canola	Spring Wheat	Durum Wheat	CPS Wheat	Feed Barley	Lentil	Feed Peas	Flax	Canary Seed	Ca
28.0	30.1	34.3	45.1	1218.0	28.4	18.3	947.0	18.8	28.0	30.1	34.3	45.1	1218.0	28.4	18.3	947.0	1
4.70	4.79	3.77	2.31	0.17	3.87	7.25	0.16	7.31	4.70	4.79	3.77	2.31	0.17	3.87	7.25	0.16	
131.60	**144.18**	**129.31**	**104.18**	**207.06**	**109.91**	**132.68**	**151.52**	**137.43**	**131.60**	**144.18**	**129.31**	**104.18**	**207.06**	**109.91**	**132.68**	**151.52**	**13**
7.19	10.23	7.55	6.65	18.90	18.00	5.95	12.60	12.00	7.19	10.23	7.55	6.65	18.90	18.00	5.95	12.60	12
13.00	13.00	13.00	13.00	1.56	1.56	13.00	13.00	13.00	13.00	13.00	13.00	13.00	1.56	1.56	13.00	13.00	13
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6
0	0	0	0	0	0	0	0	3.45	0	0	0	0	0	0	0	0	3
14.46	14.46	14.46	15.03	33.19	18.98	21.04	11.65	19.73	17.84	17.84	17.84	18.41	36.58	22.37	24.42	15.03	23
0.90	0.90	0.90	0.00	2.05	0.00	0.00	1.15	0.94	0.90	0.90	0.90	0.00	2.05	0.00	0.00	1.15	0
2.40	2.88	2.88	2.53	1.80	3.60	0.88	0.88	4.20	2.40	2.88	2.88	2.53	1.80	3.60	0.88	0.88	4
8.40	8.40	8.40	8.40	9.24	9.24	9.24	8.40	8.82	5.88	5.88	5.88	5.88	6.72	6.72	6.72	5.88	6
7.25	7.25	7.25	7.25	10.50	10.50	8.70	7.25	7.25	6.25	6.25	6.25	6.25	9.30	9.30	7.50	6.25	6
5.25	5.25	5.25	4.25	3.00	3.00	4.25	5.25	4.25	5.25	5.25	5.25	4.25	3.00	3.00	4.25	5.25	4
1.74	1.79	2.12	2.23	5.67	1.79	1.67	2.35	1.99	1.74	1.79	2.12	2.23	5.67	1.79	1.67	2.35	1
4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4
1.88	1.97	1.91	1.85	2.55	2.04	1.99	1.93	2.28	1.87	1.97	1.91	1.84	2.54	2.03	1.98	1.93	2
72.76	**76.42**	**74.01**	**71.48**	**98.75**	**79.00**	**77.00**	**74.75**	**88.19**	**72.62**	**76.29**	**73.87**	**71.34**	**98.41**	**78.66**	**76.66**	**74.61**	**88**
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1
4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4
1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1
14.50	14.50	14.50	14.50	17.50	17.50	14.50	14.50	14.50	12.50	12.50	12.50	12.50	15.50	15.50	12.50	12.50	12
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1
7.61	7.61	7.61	7.61	9.19	9.19	7.61	7.61	7.61	6.56	6.56	6.56	6.56	8.14	8.14	6.56	6.56	6
1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1
15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15.30	15
47.62	47.62	47.62	47.62	52.20	52.20	47.62	47.62	47.62	44.57	44.57	44.57	44.57	49.15	49.15	44.57	44.57	44
120.38	**124.05**	**121.63**	**119.10**	**150.95**	**131.20**	**124.62**	**122.37**	**135.82**	**117.19**	**120.86**	**118.44**	**115.91**	**147.56**	**127.81**	**121.23**	**119.18**	**133**
58.84	67.76	55.31	32.71	108.31	30.91	55.67	76.77	49.24	58.98	67.89	55.44	32.84	108.65	31.25	56.02	76.91	48
11.22	**20.13**	**7.68**	**(14.92)**	**56.11**	**(21.29)**	**8.05**	**29.15**	**1.61**	**14.41**	**23.32**	**10.87**	**(11.73)**	**59.50**	**(17.90)**	**11.44**	**32.34**	**4**
15.5	16.0	19.6	30.9	58 0.9	20.4	10.6	467.2	12.1	15.5	15.9	19.6	30.9	578.9	20.3	10.6	466.3	
25.6	**25.9**	**32.3**	**51.6**	**887.9**	**33.9**	**17.2**	**764.8**	**18.6**	**24.9**	**25.2**	**31.4**	**50.2**	**868.0**	**33.0**	**16.7**	**744.9**	**1**
2.60	2.54	2.16	1.58	0.08	2.78	4.21	0.08	4.69	2.59	2.53	2.15	1.58	0.08	2.77	4.19	0.08	4
4.30	**4.12**	**3.55**	**2.64**	**0.12**	**4.62**	**6.81**	**0.13**	**7.22**	**4.19**	**4.02**	**3.45**	**2.57**	**0.12**	**4.50**	**6.62**	**0.13**	**7**

For more information, contact your Extension Agrologist c

Mike Pylypchu
Extension Service Branc
Saskatchewan Agriculture and Foo
Phone (306) 787-596
www.agr.gov.sk.c

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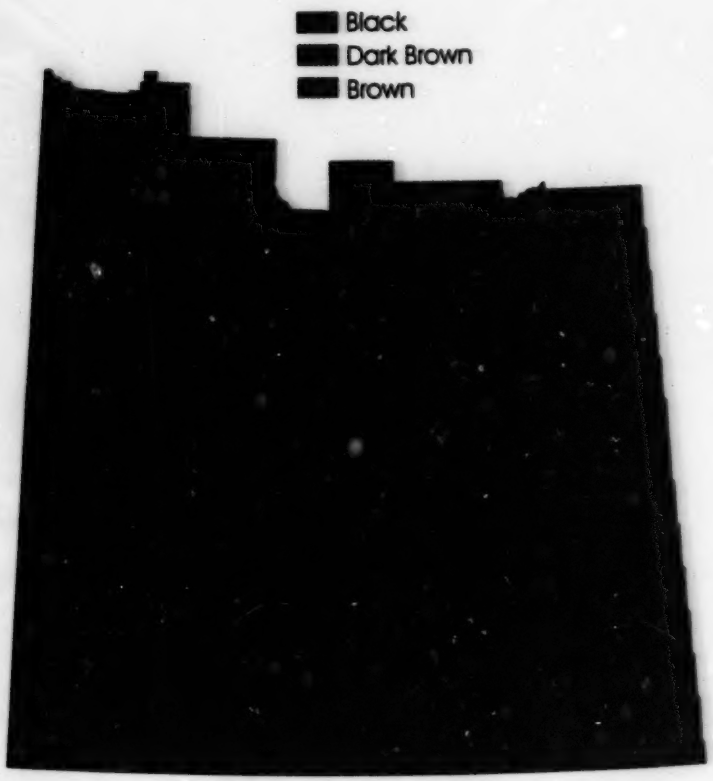
Soil Zones of Southern Saskatchewan



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DARK BROWN SOIL ZONE ASSUMPTIONS

Seed including cleaning:

- Spring wheat 1.25 bu/ac at $5.75/bu
- Durum wheat 1.5 bu/ac at $6.82/bu
- CPS wheat 1.5 bu/ac at $5.03/bu
- Barley 1.65 bu/ac at $4.03/bu
- Canola 6 lb/ac at $2.00/lb (50/50 split between conventional canola and herbicide tolerant canola).
- Flax 35 lb/ac at $9.76/bu ($.17/lb)
- Peas 180 lb/ac at $5.98/bu ($.10/lb)
- Lentils 90 lb/ac at $0.21/lb
- Canary seed 35 lb/ac at $0.36/lb
- Seed prices are an average of seed grower price and commercial prices since farmers commonly clean their own grain for seed (except for canola).

Fertilizer:

Nitrogen based on 46-0-0 at $267/tonne ($.26 N/lb)

- Nitrogen on fallow crops 25 lb N/ac
- Nitrogen on stubble crops 50 lb N/ac
- Nitrogen on fallow and stubble lentils and peas 6 lb N/ac based on 50 lb of 12-51-0

Phosphorus based on 12-51-0 $336/tonne ($.24 P/lb)

- Phosphorus on all crops at 25 lb P/ac

Sulfur based on 20-0-0-24 at $241/tonne ($.23 S/lb)

- Sulfur on canola at 15 lb S/acre (application cost is included with machinery costs)

Chemicals:

Herbicides:

- Cereals: 50% of acres sprayed for wild oats (except oats) and 100% for broadleaf weeds
- Canola fallow and conventional stubble: wild oats and broadleaf pre-plant. Canola direct seed: wild oats 100% and 25% broadleaf. Additional cost included for the use of 50% Herbicide Tolerant Canola (HTC)
- Flax, lentils, peas: grassy weeds and broadleaf 100%
- Canary seed: wild oats 25%, broadleaf 100%
- Direct seeded stubble: pre plant burn-off (glyphosate)
- Cereals, flax, canary seed: pre/post harvest 25% of all acres with glyphosate

Others:

- All crops: seed treatment or inoculation
- Canary: insect control 20%
- Canola: insect control 25% crop/year (25% of $5/ac aerial application cost included in custom work)
- Spring wheat, durum, CPS wheat: midge control 20% crop/year (20% of $5/ac aerial application cost included in custom work)
- Lentils: inoculation, fungicide 20% crop/year, desiccation
- Peas: inoculation
- Tillage fallow: winter annuals
- Chem-fallow: winter annuals, two broad spectrum burn-off, one broad leaf

- **Operating costs** are based on recommended production practices in the Dark Brown Soil Zone.
- **Fuel costs** are based on estimated fuel consumptions for the various farming operations with diesel fuel priced at 42 cents per litre.
- **Machinery repair** rates are 6% of machinery investment per year for peas, lentils and flax and 5% for all other crops.
- **Saskatchewan Crop Insurance** premiums are based on coverage at 70% of Risk Area(s) average yield plus 20%.
- **Building repair** rates are 5% of building investment per acre.
- **Operating interest** is calculated on all cash operating costs at 5.3% for six months on all crops, 18 months for fallow.
- **Machinery Depreciation** is calculated at 10% of machinery investment per year on a straight-line basis.
- **Building depreciation** is based on a building investment of $24 per cultivated acre calculated at 5% per year on a straight-line basis.
- **Average machinery investment** is $145 per cultivated acre, $58 per tillage fallow acre and $41 per chem fallow acre. An additional machinery investment of $30 per acre is assumed for lentils and peas. Machinery investment for direct seeded crops is reduced by $20 per seeded acre.
- **Investment cost** on building and machinery investment is calculated at an interest rate of 5.3% on the investment per acre.
- **Land investment cost** of $15.30/ac is calculated at 4.5% return on investment of $341 per cultivated acre.
- **Crop prices** for 2002 production are farmgate price estimates for 2002 crop production, provided by Saskatchewan Agriculture and Food in December 2001.
- **Crop yields** are 120% of 15-year averages for crop insurance risk areas 8 & 12, soil class F based on data compiled by the Saskatchewan Crop Insurance Corporation. Crop yields for the average soil class in the risk area have been increased by 20% to reflect the increased productivity for 2002 over the 15 year average and the higher than average input levels used in these budgets.
- **Crops** that appear in both the Crop Planning Guides and the Specialty Crop Planning Guide that share the same soil zone and are continuous cropped have their yields averaged between Saskatchewan Agriculture and Food's 10-year averages and Saskatchewan Crop Insurance yields plus 20% values.
- **Labour and management** - These budgets do not include an estimate for owner/operator labour and management. This value varies greatly and farm managers need to determine their own actual labour and management cost.